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Method and device for producing a hard metal tool

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The invention relates to a method for producing a bar-shaped hard metal tool comprising at least two materials of different hardness, in which the first material has the lower hardness and forms a bar-shaped support for the second, harder material.

Methods of producing bar-shaped hard metal tools, particularly hard metal drilling tools are known from, for example, DE 40 21 383 C2, DE 41 20 166 C2, WO 01/17705 A2, DE 102 29 325.2 and DE 102 29 326.0. In these known methods there is used in each instance an extrusion tool by means of which a cylindrical body consisting of a plastic mass is produced, the body having one or more recesses extending in its interior. The extrusion tool comprises an extrusion nozzle with a tapering region and a nozzle mouthpiece which forms a cylindrical channel. None of these known methods serves for producing a bar-shaped hard metal tool which comprises at least two materials of different hardness and in which the first material has the lower hardness and forms a bar-shaped support for the second, harder material.

A method of producing a drilling tool, which has a cylindrical base body, is known from US 4 762 445 A. This is conically formed in one end region. It consists of a first material, for example tungsten-carbide, which is fracture-proof, tough, easily capable of soldering or welding and readily sharpenable. Grooves are formed, in particular ground, in this base body. These grooves are filled with a second, extremely hard material, for example diamond or cubic boron nitride. A sintering process is subsequently carried out with use of high pressure and high temperature in order to fixedly connect the two materials together. The said grooves are formed and positioned in such a manner that the diamond layer or the cubic boron nitride forms the cutting edge of the drilling tool.